

Requirements for Dual Major Doctoral Degrees in STT and CSE

Background information on current requirements for the Ph.D. Program in STT

1. **Core courses** for Ph.D. in Statistics: STT 872, STT 881-2, STT 867-868 **(15 credits)**
2. **Preliminary exams:** one in statistics, and one in probability
3. **Five elective courses (15 credits)** from
 - Advanced Probability: STT 961, STT 962, STT 964, STT 996
 - Advanced Statistics: STT 873, STT 874, STT 951, STT 953, STT 997
4. **Thesis:** A doctoral candidate must demonstrate the ability to carry out significant original research in statistics and/or probability.

Requirements for Track 1 (STT is the primary department)

1. **Formally admitted to the Ph.D. program in STT and CSE** (note: Student can be admitted to STT first, then send the files to CSE admission committee to review for formal admission to CSE.)
2. **Core courses:** STT872, STT881, 1 course selected from STT 882, STT867, STT868, and 6 credits from CSE breadth area courses **(15 credits)**.
3. **Pass at least 2 prelim exams:** either two STT prelim exams; or at least one prelim exam from STT and at least one exam from CSE. The student chooses which exams to take, and gets approval from his/her guidance committee and the Graduate Directors from respective departments as outlined in MSU's dual major doctoral degree requirements.
4. **Eight electives (24 credits, at least 9 credits from STT and 15 credits from CSE)** from
 - Core sequence: STT 882, STT867, STT868 (exclude those chosen in core)
 - Advanced Probability: STT 961, STT 962, STT 964, STT 996
 - Advanced Statistics: STT 873, STT 874, STT 951, STT 953, STT 997
 - CSE breadth area courses approved by the guidance committee.
5. **Advisors**
Student needs to choose one advisor and one co-advisor in STT and CSE. Both cannot be from the same department. If a student chooses an advisor whose primary appointment is not in STT, it is expected that funding from outside of STT is secured for at least 3 years. Exceptions must be approved by the STT Graduate Director and the STT Chair.
6. **Guidance Committee**
At least 2 committee members must have primary appointments in STT, and at least two committee members must be from the CSE department.
7. **Thesis**
The thesis must contain a majority portion of original research in statistics and/or probability with applications related to computer science. Scope of the thesis must be approved by the guidance committee.

8. Other requirements

Finish CSE comprehensive by 4 years.

Remarks

- The course plan must be approved by the Guidance Committee.
- Thesis must contain a majority portion of original research in statistics and/or probability and a significant component from the core areas of the other department.

Requirements for Track 2 (STT is the secondary department)

1. **Formally admitted to the Ph.D. program in CSE.**
2. **Core courses:** STT872, STT881 (**6 credits**) and other required courses in CSE.
3. **Pass at least one STT prelim exam.**
4. **At least three electives (9 credits)** from STT:
 - Core Ph.D. sequence: STT 882, STT 867, STT868
 - Advanced Probability: STT 961, STT 962, STT 964, STT 996
 - Advanced Statistics: STT 873, STT 874, STT 951, STT 953, STT 997
5. **Advisors:** Student needs to choose one advisor and one co-advisor in CSE and STT. Both cannot be from the same department. CSE generally retains the responsibility for funding and placing the student.
6. **Guidance Committee:** Follow the CSE's guideline and at least 1 committee member must be with primary appointment in STT.
7. **Thesis:** The thesis must contain a majority portion of original research in statistics and/or probability or applications of cutting-edge statistics/probability methodology in computer science and a substantive component from at least one core area of computer science. Scope of the thesis must be approved by the guidance committee.
8. **Meet other requirements of CSE** (e.g., finish CSE comprehensive by 4 years, etc.)

Remarks

- The course plan must be approved by the Guidance Committee.

STT: Department of Statistics and Probability

CSE: Department of Computer Science and Engineering